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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/213,581	12/17/1998	IHOR LYS	C1104/7049	6707

7590 06/03/2004

Joseph Teja, Jr.
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street, 11th Floor
Cambridge, MA 02142

EXAMINER

LEE, WILSON

ART UNIT PAPER NUMBER

2821

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N

09/213,581

Applicant(s)

LYS ET AL.

Examiner

Wilson Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,8-26,51-54,56-60 and 68-76 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 and 69-72 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 75 and 76 is/are allowed.
- 6) ☒ Claim(s) 1,2,15-26,51-54,56-60,68,73 and 74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 8-14 and 69-72 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Remarks

For clarification, Claims 3-7, 27-50, 55, 61-67 have been canceled. Claims 8-14, 69-72 have been withdrawn from consideration.

Claim Rejections – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 15-26, 51-54, 56-60, 68, 73, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Havel (5,283,517).

Regarding Claim 1, Havel discloses a method comprising acts of:

- providing an LED system (See Col. 8, lines 35-49) to generate light of a range of colors within color spectrum (See Col. 2, lines 22-27);
- generating the light (from LEDs) so as to illuminate the display (e.g. transparent cover that covers over LEDs) (See Col. 32, lines 46, 58, 61).

As discussed above, Havel essentially discloses the invention but fails to disclose that projecting the light onto the retail display and observer would see the illumination indirectly via the retail display. However, it would have been obvious to one skilled in the art to locate his invention to project the light onto a retail display that would let the observer see the light indirectly via the retail display in order to enhance the contrast and brightness level of the display for observers. Such skills are commonly known to a skilled in the art. In order to support examiner's initial position, such skills

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are cited in the references in PTO-892. For instances, Dimmick shows a conventional LED bar display (LEDs 81 within the bar 80) projects light onto an object (40) (See figure 2) for attracting observer indirectly. Hsieh teaches that a light source (4) projects light onto the objects (11, 10, 71) (See Figure 1) for retail display use; Bell shows that a LED device (in Figure 2), which is capable of showing color, create momentary image on the objects to human eye (See Figure 4 and abstract). In addition, since Havel is an invention of a bar display being capable of showing numbers and alphabets in different colors; it would be reasonably success in any retail display usage such as showing prices or product's names.

Further, usage of projecting the light and usage in retail display are merely intended uses. Such suggestion that does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Regarding Claim 2, Havel discloses the method further including an act of providing a processor (168) (See Figure 87) for controlling an amount of electrical current supplied to the LED system (Col. 12, lines 9-50), so that a particular amount of current supplied thereto generates light of a corresponding color within the color spectrum (See Col. 2, lines 22-27 and Col. 32, lines 27-63).

Regarding Claim 15, Havel discloses that the act of placing includes positioning the LED system to affect an informational board (See Figures 7, 9, 11, 12) such as showing numbers. As discussed above, Havel essentially discloses the claimed invention but fails to disclose the display being used as retail display. However, the

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usages of Havel's display in retail use are considered as intended use. And such suggestion does not change the scope of Havel's invention.

Regarding Claim 16, Havel discloses that the informational board is capable of showing numbers (See Figures 7, 9, 11, 12). As discussed above, Havel essentially discloses the claimed invention but fails to disclose the display being used as traffic information signs, silent radios, scoreboards, price boards, and advertisement boards. However, since Havel's invention is capable of showing number, it is also capable of show traffic signs (e.g. speed limit), score, price, advertisement etc as well. The usage of Havel's display in those above uses is considered as intended use. And such suggestion does not change the scope of Havel's invention.

Regarding Claim 17, Havel discloses that the generated light changes color over time controlled by the color memory (See Col. 32, lines 27-49).

Regarding Claim 18, Havel discloses that the generated light maintains a constant color based on the crest factor (See Col. 31, lines 33-54). Besides, Havel discloses a continuous color converter.

Regarding Claim 19, Havel discloses the method comprising an act of varying the color of the generated light over a period of time controlled by the color memory (See Col. 32, lines 27-49) so that the observer perceives a change in color of the display being affected by the generated light (from LEDs). As discussed above, Havel essentially discloses the claimed invention but fails to disclose the display being used as retail display. However, the usages of Havel's display in retail use are considered as intended use. And such suggestion does not change the scope of Havel's invention.

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Regarding Claim 20, as discussed above, Havel essentially discloses the claimed invention but fails to literally disclose that the observer perceives an illusion of motion on the display being affected by the generated light. However, since Havel teaches that the color of the display is capable of being changed in sequences at fast rate (See Col. 13, lines 1-6 and Col. 14, lines 40-44). Therefore changes of color would create an illusion of motion (color movement) to observer.

Regarding Claim 21, Havel discloses that his invention is a display sign being capable of showing numbers as an information board (See Figures 7, 9, 11, 12). As discussed above, Havel essentially discloses the claimed invention but fails to disclose the display being used as retail display. However, the usages of Havel's display in retail use are considered as intended use. And such suggestion does not change the scope of Havel's invention.

Regarding Claim 22, as discussed above, Havel essentially discloses the claimed invention but fails to literally disclose that the observer perceives an illusion of motion on the display being affected by the generated light. However, since Havel teaches that the color of the display is capable of being changed in sequences at fast rate (See Col. 13, lines 1-6 and Col. 14, lines 40-44). Therefore changes of color would create an illusion of motion (color movement) to observer.

Regarding Claim 23, as discussed above, Havel essentially discloses the claimed invention but fails to disclose that the display is used for advertising purpose. However, However, the usages of Havel's display in advertising purpose are considered as intended use. And such suggestion does not change the scope of Havel's invention.

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Regarding Claim 24, Havel discloses that the generated light changes color over a period of time in a pre-programmed sequence (See Col. 31, line 33 to Col. 32, line 5).

Regarding Claim 25, Havel discloses that the generated light changes color over a period of time in response to external conditions (different quantities) (See Col. 20, line 59 to Col. 21, line 24 and Col. 22, line 63 to Col. 23, line 14).

Regarding Claim 26, Havel discloses that external conditions represent proximity of people (motion, sound) (See Col. 20, line 59 to Col. 21, line 24 and Col. 22, line 63 to Col. 23, line 14).

Regarding Claim 51, Havel discloses a method comprising the acts of:

- providing an LED system (See Col. 8, lines 35-49) that generates light of a range of colors within a color spectrum (See Col. 2, lines 22-27) in response to activation signal (e.g. drive signals) (See Col. 3-38);
- directing the light toward the display (40); and
- controlling the activation signal to vary the range of colors (e.g. red, green, blue) of the light over time, whereby the display is affected with color-changing illumination (See Col. 2, lines 22-27 and Col. 32, lines 27-63).

As discussed above, Havel essentially discloses the invention but fails to disclose projecting the light toward or illuminating retail display. However, it would have been obvious to one skill in the art to locate his invention to project the light toward or illuminating retail display in order to enhance the contrast and brightness level of the display for observers. Such skills are commonly known to a skilled in the art. In order to support examiner's initial position, such skills are cited in the references in PTO-892.

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For instances, Dimmick shows a conventional LED bar display (LEDs 81 within the bar 80) projects light onto an object (40) (See figure 2) for attracting observer indirectly.

Hsieh teaches that a light source (4) projects light onto the objects (11, 10, 71) (See Figure 1) for retail display use; Bell shows that a LED device (in Figure 2), which is capable of showing color, create momentary image on the objects to human eye (See Figure 4 and abstract). In addition, since Havel is an invention of a bar display being capable of showing numbers and alphabets in different colors, it would be reasonably success in any retail display usage such as showing prices or product's names.

Further, usage of projecting the light and usage in retail display are merely intended uses. Such suggestion that does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Regarding Claim 52, Havel discloses that the LED system includes at least one red LED (2), at least one blue LED (4), and at least one green LED (3) (See Col. 7, lines 49-54).

Regarding Claim 53, Havel discloses that the LED system comprises a plurality of LEDs having a plurality of colors (e.g. Red, Green, Blue, etc.), a processor (color control logic circuit 52) that receives inputs (color control logic signals) and controls the activation signal (crest factor) in response to the received inputs (color control logic signals). (See Col. 7, lines 1-38 and Col. 30, lines 36-46).

Regarding Claim 54, Havel discloses that the activation signal includes pulse width modulated signal (See Figure 77, pulse train), an intensity (uniform intensity) of a

color of the LED system being response to a duty cycle of the PWM signal (See Col. 19, lines 19-36).

Regarding Claim 56, Havel discloses that the activation signal is controlled in response to a user input (pressure) (See Col. 20, line 59 to Col. 21, line 24 and Col. 22, line 63 to Col. 23, line 14).

Regarding Claim 57, Havel discloses that the activation signal is controlled in response to an external condition (motion) (See Col. 20, line 59 to Col. 21, line 24 and Col. 22, line 63 to Col. 23, line 14).

Regarding Claim 58, Havel discloses the act of providing includes an LED system comprising a plurality of LEDs and an addressable controller (address counter) for controlling light generated by the plurality of LEDs (See Col. 24, lines 51-68).

Regarding Claim 59, Havel discloses the method comprising an act of varying the color of the generated light over a period of time controlled by the color memory (See Col. 32, lines 27-49) so that the observer perceives a change in color of the display being affected by the generated light (from LEDs). As discussed above, Havel essentially discloses the claimed invention but fails to disclose the display being used as retail display. However, the usages of Havel's display in retail use are considered as intended use. And such suggestion does not change the scope of Havel's invention.

Regarding Claim 60, as discussed above, Havel essentially discloses the claimed invention but fails to literally disclose that the observer perceives an illusion of motion on the display being affected by the generated light. However, since Havel teaches that the color of the display is capable of being changed in sequences at fast

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rate (See Col. 13, lines 1-6 and Col. 14, lines 40-44). Therefore changes of color would create an illusion of motion (color movement) to observer.

Regarding Claim 68, Havel discloses a method comprising the acts of:

- providing an LED system to generate light of a range of colors within a color spectrum;
- generating the light (LEDs) so as to illuminate the display (e.g. transparent cover that covers over LEDs) (See Col. 32, lines 46, 58, 61).

As discussed above, Havel essentially discloses the invention but fails to disclose projecting the light onto an object such that the observer sees the light substantially indirectly via the object, and using in advertising display. However, it would have been obvious to one skill in the art to locate his invention to project the light onto an object in order to enhance the contrast and brightness level of the display for observers. Such skills are commonly known to a skilled in the art. In order to support examiner's initial position, such skills are cited in the references in PTO-892. For instances, Dimmick shows a conventional LED bar display (LEDs 81 within the bar 80) projects light onto an object (40) (See figure 2) for attracting observer indirectly. Hsieh teaches that a light source (4) projects light onto the objects (11, 10, 71) (See Figure 1) for advertisement display use; Bell shows that a LED device (in Figure 2), which is capable of showing color, create momentary image on the objects to human eye (See Figure 4 and abstract). In addition, since Havel is an invention of a bar display being capable of showing numbers and alphabets in different colors, it would be reasonably

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success in any advertisement display usage such as showing prices or product's names.

Further, usage of projecting the light and usage in retail display are merely intended uses. Such suggestion that does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Regarding Claim 73, Havel discloses that the act of providing includes providing an LED system comprising a plurality of LEDs and an addressable controller (address counter) for controlling light generated by the plurality of LEDs (See Col. 24, lines 51-68).

Regarding Claim 74, Havel discloses an illumination method comprising act of:

- providing an LED system to generate light of a range of colors within a color spectrum (See Col. 2, lines 22-27).

As discussed above, Havel essentially discloses the invention but fails to disclose projecting the light onto an object such that the observer sees the light substantially indirectly via the object, and using in advertising display. However, it would have been obvious to one skilled in the art to locate his invention to project the light onto an object in order to enhance the contrast and brightness level of the display for observers. Such skills are commonly known to a skilled in the art. In order to support examiner's initial position, such skills are cited in the references in PTO-892. For instances, Dimmick shows a conventional LED bar display (LEDs 81 within the bar 80) projects light onto an object (40) (See figure 2) for attracting observer indirectly. Hsieh teaches that a light source (4) projects light onto the objects (11, 10, 71) (See

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Figure 1) for advertisement display use; Bell shows that a LED device (in Figure 2), which is capable of showing color, create momentary image on the objects to human eye (See Figure 4 and abstract). In addition, since Havel is an invention of a bar display being capable of showing numbers and alphabets in different colors; it would be reasonably success in any advertisement display usage such as showing prices or product's names.

Further, usage of projecting the light and usage in advertisement display are merely intended uses. Such suggestion that does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Allowable subject matter

Claims 75 and 76 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests the step of varying the color of the generated light over a period of time so that an observer perceives a change in color associated with the object being affected by the generated light due to a selective color interaction between the generated light and the object as required by claim 75; and varying the color of the generated light over a period of time so that the observer perceives an illusion of motion in a portion of the object being affected by the generated light due to a selective color interaction between the generated light and the object as required by claim 76.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed on 3/1/04 have been fully considered but they are not persuasive.

Applicant traverses the rejection based on intended uses.

However, as explained by Examiner, any claim language that does not limit a claim to a particular structure does not limit or change the scope of a claim or claim limitation.

Applicant also traverses that it is not obvious to include the claimed limitation in Havel, which is missing in Havel.

However, such suggestion for including the claimed limitation is known to a skilled in the art. In order to support Examiner's initial position, three conventional arts are cited in PTO-892 that shows such suggestions are well known. Further, Havel is an invention of a bar display being capable of showing numbers and alphabets in different colors, it would be reasonably success in any advertisement or retail display usage such as showing prices or product's names.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dimmick (5,151,679) shows a conventional LED bar display (LEDs 81 within the bar 80) projects light onto an object (40) (See figure 2) for attracting observer indirectly. Hsieh (5,123,192) teaches that a light source (4) projects light onto

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the objects (11, 10, 71) (See Figure 1) for advertisement display use; Bell (4,470,044) shows that a LED device (in Figure 2), which is capable of showing color, create momentary image on the objects to human eye (See Figure 4 and abstract).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wilson Lee
Primary Examiner
U.S. Patent & Trademark Office

5/31/04